

Second Assessment of the Impact of COVID-19 on Forests and Forest Sector in the Eastern Europe region

Jürgen Blaser

Jelena Markovic

Ellen Geisler

Mariana Melnykovich

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The sixteenth session of the UN Forum on Forests (UNFF16) in April 2021 requested the Forum secretariat, in collaboration with members of the Forum, CPF member organizations and stakeholders, to conduct an assessment of the challenges faced by countries, and the strategies, recovery measures and best practices for reducing the impact of COVID-19 on forests and forest sector, and to present it to the Forum at its seventeenth session in May 2022. To conduct this second assessment, the UNFF Secretariat commissioned a series of assessments in different regions and subregions.

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Second Assessment of the Impact of COVID-19 on Forests and Forest Sector in Eastern Europe

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Prepared by

Jürgen Blaser
Jelena Markovic
Ellen Geisler
Mariana Melnykovich

For Secretariat of the UN Forum on Forests

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EXECUTIVE SUMMARY

This Second Assessment of the Impact of COVID-19 on Forests and Forest Sector in Eastern Europe is a study of the challenges faced by countries, along with the strategies, recovery measures and best practices for reducing the impact of COVID-19 as it relates to forests and forest sector. Since COVID-19 was declared a pandemic by WHO in March 2020, crisis management measures, including social distancing measures and complete and partial lockdowns, were imposed around the world to slow the spread of the virus and reduce the socio-economic impacts. These measures redefined lives and livelihoods around the world as people, families, businesses, and governments coped with the pandemic, the response measures, and the associated challenges. The focus of this report includes 23 countries in Eastern Europe. The forest sector has a minor contribution to the national GDPs; however, the socio-economic value of forests plays an important role, especially in rural livelihoods of the region. Forests and sustainable forest management are important elements that contribute to SDGs and climate adaptation and mitigation processes.

The objective of this paper is to assess the challenges, strategies, recovery measures and best practices for reducing the impact of COVID-19 on forests and forest sector in Eastern Europe. Information comes from existing literature and survey responses collected between September and December 2021. First, information was collected through an exploratory literature review of existing published studies and reports, news items, and policy briefs. Second, a questionnaire was sent to UNFF national focal points and other stakeholders from civil society, forest associations, private sector, academia, and other regional organizations in Eastern Europe. By 22 November 2021, 22 responses from 14 different countries were collected. This represents a response rate of 14% of individuals contacted and 64% of countries in the region. The findings were validated by respondents in an online workshop in mid-December.

The following are the main findings regarding the challenges, strategies and recovery measures, best practices, and recommendations related the impact of COVID-19 on forests and forest sector.

Challenges

Socio-economic and environmental challenges related to forests and forest sector arose from the pandemic and crisis management measures. The increased use of forests for recreational purposes observed since the beginning of the lockdowns and social distancing measures imposed to slow spread of COVID-19 not only resulted in enhanced importance and positive perception of forests for human well-being but also raised concern about the negative human impacts on environmental resources. Positive environmental effects of the crisis management measures were improvements in air quality and reduced CO₂ emissions, and negative environmental effects included increased single-use plastic waste and reduced environmental compliance monitoring. In general, the forest sector was perceived as less affected by and more resilient to the pandemic, whereas export-oriented wood processing industries experienced more difficulties under restriction measures and trade barriers. Public pressure to conserve forest resources and ensure biodiversity protection increased, sometimes resulting in pressure on forest management. Businesses felt challenges from economic stagnation, increased expenditures, employee absence, and performance losses.

Strategies and recovery measures

Strategies and recovery measures specifically related to forests and the forest sector in Eastern Europe included financial support in the form of subsidies, deferred payments and costs reductions. Respondents from most countries participating in the survey reported about general strategies and recovery measures adopted to reduce the impacts of the COVID-19 pandemic including economic recovery grants and

environment-related employment programs. These emerging practices were usually small-scale and were advised to be expanded and continually reassessed to ensure positive environmental impacts resulted from the responses to COVID-19.

Best practices

The importance of forests and forest products increased as countries around the world focus on building back better after COVID-19. Respondents reported efforts to enhance communication on sustainable forest solutions, consider digital solutions, and improve efficiency in forest sector. Improved communication to engage stakeholders through multiple channels was advised to improve perception of forests and forest management. Countries consider increased use of sustainable wood-based energy resources for a more efficient and climate-friendly future. The identified best practices from the survey findings directly related to forests and forest sector were usually in the form subsidies or financial releases. Respondents appreciated improved and simplified communication that came with virtual meetings. However, a good balance of meeting in person and online was requested to efficiently conduct business in the forest sector.

Recommendations

The following recommendations are based on the survey and literature findings.

- More attention should be paid to strengthening the socio-cultural services of forest ecosystems. Improved communication and outreach to wider population on benefits of sustainable forest management for adaptive and resilient forests and to reduce negative image around forest management is desired.
- Improved collaboration among stakeholders from forest sector and wider society along with efficient international cooperation is required to align opposing interests and cope with uncertainties and challenges posed by pandemic.
- Forest management that allows Innovative business ideas, like ecotourism, could increase economic performance of forests.
- Actions and policies intended to reduce the impact of the pandemic on forests and the forest sector should be linked to existing forest sector policy priorities, especially climate change mitigation and adaptation.
- Public and private investments are needed that enhance forest resiliency and adaptive capacity to climate change and can help forests to cope with negative impacts of climate change, protect people against current disease, and reduce future pandemics.
- Increased forest cover and structural reform are two ways countries could strengthen resiliency in times of crisis.
- International cooperation in the form of financial and policy measures can build capacity in sustainable forest management.
- Improved information exchange about business practices, new market opportunities, and digitalization can benefit the forest sector in the region.

In conclusion, the multiple benefits of forests are important for the post-pandemic period, as sustainably managed forests generate employment, enhance livelihoods, and have positive influence on climate change. Therefore, national stimulus packages must integrate forests and consider a “green recovery”.

1 Introduction

The COVID-19 pandemic has disrupted social and economic systems around the world leading to major negative effects on health and economy (Congressional Research Service 2021). Globally, 263,563,622 cases of COVID-19 were confirmed as of December 3, 2021, including 5,232,562 deaths. A total of 7,864,123,038 vaccine doses were administered as of 3 December 2021 (WHO). In response to the pandemic, complete and partial lockdowns were imposed around the world impacting social networks, livelihoods, and well-being. Governments were forced to reconsider policies and planning with the pandemic in mind (Nikolopoulos et al. 2020). Businesses had to adjust their supply chain management and consider the effects of the pandemic on the labor market (AL-MANSOUR and AL-AJMI 2020). According to the OECD Economic Outlook report released in September 2021, global economic growth declined by 3.4% in 2020, yet the global economic growth was estimated at an annual rate of 5.7% in 2021 and 4.5% in 2022 (OECD 2021a). The economic impact of the COVID-19 was mild in countries with high vaccination rates, but the variant added pressure to global supply chains and costs. In countries where vaccination rates are low, especially in emerging-market and developing countries, output and employment gaps remained in the latter part of 2021. OECD recommended that public investment and enhanced structural reform were needed to improve resilience and the prospects for sustainable growth (OECD 2021a).

Forests support livelihoods around the world, in normal times and in times of crisis (UN DESA 2020). One third of the global population depends on forests for fuel (UN DESA 2020); and 54.2 million people work in forest industries (ILO 2020). As with other sectors, the pandemic disrupted supply chains and labor markets for workers and businesses in the forest industry (ILO 2020). An FAO survey reported that in the first six months of the pandemic all areas of the wood value chain were impacted, some negatively due to worker layoffs and others positively due to increased sales (FAO 2020b). An analysis of business performance and risk in forest industries showed that forestry is more volatile and reactive to catastrophic events than paper production (Størdal et al. 2021). The timber sector in Eastern Europe was not as severely affected as other industries because larger companies were able to continue operations and employment even though supply chains were disrupted (FAO and UNECE 2021).

At the sixteenth session of the UNFF (UNFF16) in April 2021, the United Nations Forum on Forests (UNFF) mandated a global assessment of the challenges faced by countries, along with the strategies, recovery measures and best practices for reducing the impact of COVID-19 on forests and forest sector. The objective of this paper is to assess the challenges, strategies, recovery measures and best practices for reducing the impact of COVID-19 on forests and forest sector in Eastern Europe.

1.1 Summary of COVID-19 waves in Eastern Europe

Since March 2020, when the WHO declared COVID-19 as a pandemic (WHO 3/11/2020), complete and partial lockdowns were imposed around the world to slow the spread of the virus. Vaccination against COVID-19 is the primary long-term strategy to contain the coronavirus (WHO). Vaccination campaigns, which began in December 2020 and expanded in the first quarter of 2021, are often organized at a national level in coordination with subnational governments and health agencies. Global vaccination is a logistical challenge in all countries and carries significant implications for governments and civil life (OECD 2021c).

The pandemic unfolded in many waves marked by spikes in the number of infections and deaths. Central and Eastern Europe managed the first wave, in the spring of 2020, well in terms of economic impact, but the second wave in the fall of 2020 brought sharp economic decline (ILO). ILO reported that Eastern Europe lost 7.4% of all hours worked in 2020, or an equivalent of 8 million full-time jobs (ILO 2021). The third wave hit Europe in the first months of 2021 as vaccinations became available and lockdowns were imposed again (Harris 2021). In April 2021, many countries in Eastern Europe began easing restrictions to appease

frustrated inhabitants, despite being one of the hardest hit regions in terms of fatalities from COVID-19 (Laca et al. 4/12/2021). As the fourth wave swept across Europe in summer 2021, Eastern Europe avoided a surge of cases driven by the Delta variant, and vaccination rates remained low despite the reduced constraints on vaccine supply (Deutsch et al. 7/27/2021). Concern about another wave intensified in October 2021, where a combination of low vaccination rates, eased restrictions, public pushback on further restrictions, and political upheaval in some countries had experts concerned about the highly infectious Delta variant (Furlong 10/8/2021). Disinformation and distrust in initiatives from authorities added to the complexity of the situation (Project Syndicate 11/8/2021). Eastern Europe represents 4% of the world's population, and it accounted for roughly 20% of all new cases reported globally at the end of October 2021 (GULF TIMES 10/24/2021).

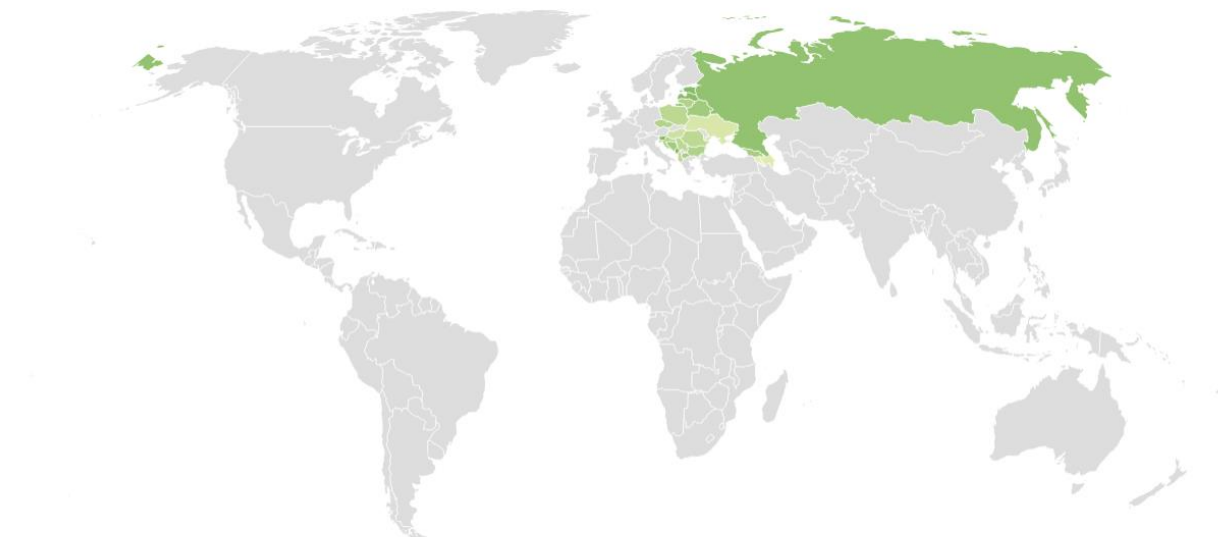
In early December, the WHO Regional Office for Europe reported that “the most important thing people can do is to stop the virus at its source by completing their vaccine series as soon as possible and continuing to protect themselves with all other proven preventative measures” (WHO Regional Office for Europe 12/3/2021). It was noted that the Delta variant was the dominant strain at that time, the Omicron variant was of concern, and virus mutations continued to impact the region. Travel restrictions, quarantines, and required vaccination documents were imposed to slow the spread of the virus as the Omicron variant was spreading quickly around the world and confirmed in Eastern European countries in early December (The Moscow Times; AP NEWS 12/6/2021). WHO guidance to governments and health authorities recommended that all policies should be evidence-informed and risk-based approaches (WHO Regional Office for Europe 12/3/2021).

1.2 Geographic and economic overview of study area

The geographical focus of the present report is on 23 countries in Eastern Europe¹. Forests range from Russian Federation with the largest absolute forest area and Slovenia and Montenegro with the highest forest cover (61%), to forest poor countries such as Armenia and Moldova with forest cover rate of only 12% (Figure 1). The forest sector contributes on average 1.5% to the national GDP (United Nations and FAO 2015). Employment in forestry and logging expressed in full time equivalents ranges from 1,700 in Georgia to 76,270 in Russian Federation (FAO 2020a).

¹ Based on the UN regional grouping of countries, the Eastern Europe consist of Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Montenegro, North Macedonia, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia and Ukraine.

Forest cover (%)



Source: FRA 2020 • Created with Datawrapper

Figure 1: Forest cover among Eastern Europe countries

In addition to the GDP and employment figures, forests and forest sector contribute to ecosystem goods and services and socio-economic systems. Drinking water, climate, and biodiversity are all influenced by forest cover. Non-timber forest products contribute to local livelihoods, and fuelwood is an important source for heating and cooking. During COVID-19, global demand for wood products remained strong, and is likely to continue due to policy stimulus packages implemented in some countries to support the sector. It is assumed that in the Eastern European region about half the wood removed from forests accounts for energy provision (FAO and UNECE 2018). Economic decline pushes people to use alternative and affordable energy sources and sets pressure on the forest resources significantly, especially in the times of significant socio-political changes and crisis (FAO and UNECE 2018).

To get an impression on importance of international cooperation for this region information on Official Development Assistance (ODA) was screened. ODA data from OECD shows that 13 countries in the study area are registered as donors, though only 5 of the 13 invested in forest activities. Eleven countries in the study area are recipients, and no specific data is available about disbursement to the forest sector. Azerbaijan is the only country appearing in both donor and recipient group.

The UNECE “Forest Products Market Statement” reported an uncertain economic outlook directly related to the pandemic duration, spread, and need for restrictive measures (UNECE 2020). After confinement measures were put in place to slow the spread of the virus, widespread unemployment and economic disruption troubled the world. In most of Eastern Europe, economic activity reached low levels while restrictions on movement were imposed. Economic activity recovered some after restrictions were eased and policy stimulus packages were deployed. UNECE predicted that “the recovery from this low point will be insufficient to prevent a deep output contraction in the region...even if a new wave of infections is avoided” (UNECE 2020).

1.3 Findings from the Initial Assessment of the Impact of COVID-19 on Sustainable Forest Management

The Initial Assessment of the Impact of COVID-19 on Sustainable Forest Management was conducted from October to December 2020. The assessment concluded that the long-term consequences of the pandemic on the forest sector would depend on the duration and severity of the pandemic, the process of economic recovery, and each country's political course. The assessment included a literature review and a survey of key focal points. Survey responses varied widely depending on the stakeholders' perspective.

The main findings show how COVID-19 impacted sustainable forest management (SFM), forest economies, and communication, among other topics. Positive and negative impacts on SFM were reported. Positive impacts included reduced human activity in forests and enhanced forest protection. Negative impacts included delays or reduction of the planned SFM activities, restriction to only essential forest management measures, and illegal activities that influence the forest quality and timber market.

Economic impacts were experienced in individual livelihoods and forest industries. Forest-dependent livelihoods experienced decreased income and revenue alongside increased costs. Large businesses appeared more resilient compared to smaller businesses, which experienced major damages. In general, respondents from countries less dependent on export and import markets experienced fewer difficulties during the pandemic. Key forest sector institutions reported delays in processing information; inability to work on-site; and deterioration in reliability, quality, and timeliness of data. Countries and companies with a strong international orientation saw challenges in supply chain management and sales. Those involved with international and regional cooperation were forced to change their communication method which led to increased dissemination of information and time savings (positive outcomes); postponed and canceled meetings (negative outcomes); and changes to field exposure and online meetings (positive and negative outcomes).

Respondents reported opportunities and threats related to the impact of COVID-19 on SFM. Opportunities reported include increased public awareness of the benefits of forests, increased importance of recreational use in forests, improved communication, and decreased externalities caused by human activities. Threats to SFM include reduced sales and falling prices in timber markets, concern for illegal activities, increased pressure on resources due to unstable financial situations, and concern that environmental and conservation projects will lose priority in national budgets.

The forest sector was assessed to be less affected by the pandemic than other sectors, despite some findings of a strong impact from the restriction measures. In the forest sector, COVID-19 was particularly disruptive to forest operations that rely heavily on field work. At the time of the first assessment, most countries were struggling with a second wave of the pandemic, therefore it was difficult to assess the situation in countries in Eastern Europe.

2 Applied methodology and assessment questions

For this second assessment the information was collected in two stages. In the first stage, information about the impact of COVID-19 on forest sector in Eastern Europe was collected through an exploratory literature review of existing published studies and reports, news items, and policy briefs. The review focused primarily on information at the national level and included publications of broader geographical scope related to impact of COVID-19 on the forest sector.

In the second stage, the UNFF national focal points and other stakeholders from civil society, forest associations, private sector, academia, and other regional organizations in Eastern Europe were contacted between 29 September and mid-November 2021 with a short questionnaire (Annex 1). In total 156

stakeholders were approached by e-mail to participate in the assessment by providing their input an online Google Forms survey, returning the completed Word version of questionnaire, or responding during a phone interview depending on their convenience. The survey was distributed in English, Russian, Ukrainian and in the language used in Bosnia and Herzegovina. All contacts were requested to further support the study by distributing it to relevant national stakeholders from civil society, forest associations, private sector, academia, and other regional organizations in Eastern Europe. All responses are from experts who were asked to share their observations. Responses do not represent official views of the institution or country represented.

Based on the Terms of Reference (ToR) of the consultancy contract, the assessment should identify and elaborate on, *inter alia*;

- a. the challenges faced by countries in addressing the impacts of COVID-19 pandemic on forests and the forest sector
- b. the strategies and recovery measures being adopted by countries in combatting the impacts of the COVID-19 pandemic on forests and the forest sector and
- c. best practices adopted by countries and other stakeholders for reducing the impact of COVID-19 on forests and forest sector,

Finally, strategic analysis of finding from literature review and consultations with stakeholders was conducted to formulate clear conclusions and recommendations for reducing the impact of COVID-19 on forests and forest sector.

3 Results

By 16 December, 24 responses from 14 different countries were collected from 156 people contacted in 23 countries. This represents a 15% response rate of individuals; and it equates to participation from 61% of the contacted countries. Five countries (Armenia, Bosnia and Herzegovina, Georgia, Serbia, and Ukraine) had multiple responses per country and from different stakeholder groups, and eleven countries had single representation. Most of the respondents (42%) were from civil society (represented by non-governmental organizations and independent consultants), 25% were from forestry research institutes and academic institutions, 25% represented governmental institutions or public enterprises, 4% were private forest owners (1 respondent), and 4% financial institutions (1 respondent).

The following results, based on analysis of the literature findings and empirical results, are structured according to three areas mandated in the ToR: challenges, strategies and recovery measures, and best practices.

3.1 Challenges faced by countries in addressing the impacts of COVID-19 pandemic on forests and the forest sector

3.1.1 Literature Review

At the time of writing, the COVID-19 pandemic was worsening and was expected to continue to negatively impact the national economies of the countries of the Eastern European region. The heterogenous impact of the COVID-19 pandemic had significant implications for crisis management and policy responses, and governments at all levels operated with great uncertainty trying to balance the economic and social pressures they faced (OECD 2021c). Restrictive measures designed to slow the spread of the virus caused

an initial shock to socio-economic systems resulting in “a temporary gap in production, trade supply chains and slower activity” in Eastern Europe (FAO and UNECE 2021). Additionally, the intensity of the impact on production and consumption correlated with the intensity of the restrictions. Production and consumption of timber products in Eastern Europe generally declined during the most intense restrictions. There was increased demand for wood-based panels as a result of traditional seasonal demand combined with home improvements funded by unused disposable income that was not spent on travel or purchases during the lockdowns (FAO and UNECE 2021).

The OECD analysis, “COVID-19 and greening the economies of Eastern Europe, the Caucasus and Central Asia,” showed that some countries in the region incorporated environmental objectives in their COVID-19 response and recovery plans, while noting that these efforts had mixed results when they were not coordinated with broader environmental objectives (OECD 2021b). For forests and the forest sector in Eastern Europe, positive and negative effects resulted from policy measures and efforts to slow the spread of COVID-19.

Positive environmental effects include improvements in air quality and reduced CO₂ emissions (OECD 2021b). In the Western Balkans, despite the pandemic and related restrictions faced by producers, roundwood production increased in 2020 compared to the same period the previous year (UNECE 2021a). In general, from the end of 2020 through 2021, the impact of the pandemic on employment in raw wood materials production was limited in the Western Balkans, as there were no reported layoffs nor wage reductions (UNECE 2021a).

Negative environmental effects include reduced monitoring for environmental compliance and an increase in single-use plastic waste (OECD 2021b). Economically, a decline in foreign trade and disrupted cross-border trading for different wood products (such as wood harvest, sawmills, wood-based panels, pulp and paper and wooden furniture) impacted countries where export was critical (e.g. Western Balkans - **Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia**) (UNECE 2021a). In the Western Balkans, capital investments in the forestry sector were largely postponed, except for the completion of forest road construction already in progress.

Specific changes noted in some countries could be interpreted as having a positive or negative environmental impact depending on further outcomes. In **Estonia**, the COVID-19 pandemic and related restrictions caused a modest impact on forestry and the wood industry; and there was significant increase in use of forests for recreation (Ministry of the Environment, Republic of Estonia). One industry report from **Russia**, “MDF/HDF Market in Russia in 2020-2021,” reported a 4.5% decrease in MDF/HDF production compared to the year before, unprecedented price growth, and a new Kronospan Group plant was commissioned in the Kaluga Region (What Wood).

Recovery plans intended to promote economic development may have negative environmental effects. Lockdown measures paused environmental protection activities like public hearings in **Ukraine** about the law “On Environmental Impact Assessment” and development of new legislation in **Belarus** about the right to use reusable containers. Financial resources were reallocated from environmental initiatives to immediate public health response (e.g. billboards in **Armenia** were reassigned for COVID-19 awareness rather than the scheduled environmental awareness campaigns). Temporary moratoria on environmental inspection in **Moldova** and **Ukraine** were intended to lift the administrative and financial burden from businesses (OECD 2021b).

The impact of COVID-19 on wood energy was assessed in different efforts and presented in BIO4ECO Interreg webinar and this paragraph is the summary of the findings (BIO4ECO Interreg Europe 2021).

Although no conclusion on the future development in the biomass market was possible, many presenters observed significant uncertainty around impact of pandemic and expected to see the consequences only on the long run, like oil crises from the past. Within the European Union, policies exist to increase share of renewable resources and primarily wood energy. The pandemic changed public perception of risk management. In some countries there was intensified demand for renewable energy along with a desire to enhance national energy resources and reduce dependence of imported oil. At the same time, public pressure to conserve forest resources and ensure biodiversity protection became apparent during the pandemic as more people used forests for recreation. Many countries noted that the pressure on forest management has increased. In Italy, some publications falsely suggested pollution spreads viruses, creating public pressure on biomass processing plants. This created negative publicity towards forest management, and requests to ban forest management activities were raised.

The following examples related to forest management and importance of forests and wood products were mentioned by representatives during the BIO4ECO Interreg webinar (BIO4ECO Interreg Europe 2021).

- A **Latvian** representative noted an increase in price of wood products due to COVID-19 and other factors. Because there is concern that increased use of wood energy might have long-lasting impact on climate, there is no intention to increase use of wood energy.
- Pellet production is increasing in Baltic states (**Estonia, Latvia, Lithuania**).
- **Slovenia** was confronted with difficulties to reach the forest owners during pandemics and noticed a decrease in purchase of roundwood from private owners. The demand for low quality wood decreased strongly during the pandemic and wood prices increased. There is a general impression that not only COVID-19 but also climate change created an atmosphere of uncertainty and the country perceives a growing stock of low value wood.
- Some regions in **Romania** remarked an increase in wood exploitation and in use of wood energy compared to 2019, as there was no available gas supply and inefficient methods of heating with wood are used.

3.1.2 Survey Responses

In Question 1, respondents were asked to list challenges their country faced when addressing the impact of COVID-19 pandemic on forests and forest sector from their perspective (Figure 2 **Error! Reference source not found.**Figure 1). This included economic, social, and environmental challenges. Two-thirds (67%) of respondents perceived only negative challenges, and 8% perceived clearly positive impact. 21% did not explicitly value their response. All challenges are grouped under economic, social and environmental category.



Created with Datawrapper

Figure 2: Challenges faced when addressing the impact of COVID-19 pandemic on forests and forest sector

Many respondents perceived a “new normal” in forestry work today after living through lockdowns in 2020. As such, respondents reported trying to perform daily business without major deviations from the planned dynamics, regardless of the presence of the pandemic.

3.1.2.1 Economic challenges

Economic challenges were more pronounced in the beginning of the pandemic with initial wood trade barriers, disrupted wood supply, problems with international transport of wood products and realization of projects abroad. Some respondents mention recovery of national timber markets. However, many reported continued stagnation of economic activity due to decreased demand for wood products and corresponding annual felling and silvicultural activities. This situation on the timber market is not a consequence of the pandemic alone, but it is also a result of nature conservation, disproportion between supply and demand, and lower prices for softwood (the softwood market is saturated due to calamities). At the time of writing this report, there was an increased employee absence as many countries were experiencing a fourth or fifth wave of infection.

The forest sector, like other sectors, saw increased expenditures: procurement of protective equipment for employees, increased costs for forest companies, and an increase in the prices of other raw materials, such as oil. The whole situation caused lower revenues for forest companies, owners and managers. Some countries reported the need for external funding, such as bank loans, to cope with difficult economic conditions. Required COVID-19 compensations for individual enterprises and loss of revenues continue to present a burden for state budgets. In Box 1, responses related to observed economic challenges are listed.

Box 1: Responses to questionnaire on perceived economic challenges (as direct answers from the survey or translated versions)

Economic challenges

- Many small and mid-size forest companies had serious losses during the pandemics.
- A serious impact on the forestry sector in the **Republic of North Macedonia** manifested primarily in the absence from work of a large number of people who were infected with COVID-19 and who had to use sick leave. This caused some downtime as well as increased unproductive costs. At the same time, there is an increase in the prices of certain raw materials such as oil, which has a direct impact on the production processes in forestry. The challenge remains for the forestry sector to provide continuous supply to the wood industry and households with wood assortments despite the mentioned inconveniences.
- Decreased demand for wood products.
- Disrupted wood supply, silviculture activities, forest protection measures
- COVID-19 pandemic had an impact on the annual felling. Namely, the felling decreased and thus the supply of timber (from this domestic felling) on the market decreased as well (based on real 2020 data). At the same time, it has to be said that the pandemic was one but not the only cause of such a situation on timber market. The other causes included restrictions of nature conservation and disproportion between supply of and demand for softwood (high supply of soft timber on the market from calamities occurred in neighbouring countries, esp. in the Czech Republic). This situation – the market saturated with calamity timber (especially softwood) – caused decrease of timber prices on the market. So it can be said that both factors – difficult market situation as well as the pandemic – contributed significantly to lower felling and lower domestic wood supply.

- The market situation described above caused lower financial revenues for forest companies, owners and managers (from timber sale).
- As regards expenditures, the procurement of protective equipment (face masks, disinfection) for employees increased costs for forest companies.
- As a consequence, forest companies, owners and managers utilized to larger extent other, external sources of funding, such as bank loans, to cope with difficult economic conditions. That has increased their debt ratio.
- Beginning of year 2020 (April -May) observed was problem or with delivery and transport of wood products especially abroad, but situation was sorted out with governmental decision and agreement with companies to create storages of final products and do not store primary resources in forests. Government introduced deferred payment as measure and by the end of 2020 the economic situation was as on 2019 level.
- In individual cases the transport of forest workers to the field and closed room environment of the wood processing plants was an issue for infection spreading. But generally, forest sector was one of the less impacted and 2021 could be observed as very good year for high export rates and maximized turnover with the public enterprise in forestry.
- Initial wood trade barriers (restrictions), problems to do projects abroad, decrease in forest property transactions in the **Baltics**.
- Stagnation of economic activity, falling demand for wood, the inability to work effectively in the remote form of work
- In 2021 National Forestry Agency in Georgia faced cutting off the state financing which created the risk for reducing scales and quality of forest operations (forest protection, reforestation and etc.). As the scale of forest operations were reduced, income opportunities for locals or the private sector were reduced as well.

3.1.2.2 Social challenges

The most concerning social challenges from respondents were the potential massive infection spreading among employees and performance losses from employee absence. Some reported decreased income in forest sector and increased fuel wood prices, which directly affected mostly rural poor. Many countries are confronted with reduced communication around sustainable forest management and must adapt outreach methods to effectively reach a wide audience through digital channels. Some respondents reported negative impacts related to governance (e.g., on-site law enforcement by forest authorities) and labor shortages (e.g. persistent lack of manpower for forest activities, as many countries engage contractors from abroad). Many countries collected less revenue from international tourism and were forced to focus on inland tourism. They were confronted with negative impacts of uncontrolled tourist activities in forests. These factors combined with social pressure and general uncertainties of the pandemic significantly impacted the forest sector. Box 2 presents the selection of the responses related to social challenges.

Box 2: List of observed social challenges (as direct answers from the survey or translated versions)

Social challenges:

- During lockdowns access to the forest for the general public was restricted.
- It is assumed that pandemic and social changes contributed to increase in price of fuel wood, which then affects the category of the rural poor the most.

- Lack of human resources for performing works in forestry.
- The average salary in forestry decreased annually (i.e. in comparison to the previous year).
- COVID-19 pandemic has also negatively influenced some of the governance activities. Actually, it caused a decrease in a number of “physical” controls and checks carried out by public forest authorities on the ground (in forest stands, forest companies, transport of timber logs). Those controls are usually focused on compliance of forest management and other activities with applicable national and European Union (EU) legislation.
- COVID-19 pandemic has had a negative impact on communication activities with general public on the importance of forests and sustainable forest management (such activities as forest pedagogics, cooperation with schools and students, thematic exhibitions). Many of those activities went online, nevertheless, despite all the difficulties, we manage to attract and ensure safe (physical) attendance of around 38.000 people at various events during 2020.
- An NGO, a challenge was reduced opportunities for carrying public events, meetings with communities, carrying trainings for forest volunteers.
- The key challenge that the forestry sector had to overcome were at the very beginning of the pandemic the restrictive measures imposed (ban on movement, gatherings and slowed movement of goods and people). This slowed down activities in the forestry sector and caused the production process to be stopped completely at some point. As it went on (from March 2020) and during the summer months, the production process continued without major disruptions and delays. In the meantime, all participants in production and work in forestry have accepted protection measures for own benefit as a "new normal" state. In terms of production, there were no major deviations from the planned dynamics, regardless of the presence of a pandemic.
- Reduced financing, challenges related to HR management and proper performance during lock down.
- Significant challenge “in face” collaboration.
- Absent perception of the threat of a pandemic by the majority of the population and employees of enterprises and organizations; insufficient preparedness of the health care system; unnecessary loss of working time and productivity due to illness of workers; COVID-19 compensation costs of the state budget for individual enterprises; loss of revenues to the country's budgets; decline in economic activity, especially in tourism (due to the decline in international tourism). In return, tourism activity within the country has increased.
- Changes of the survival strategy in the forest sector, in particular to perception of logging as the main means of income. WE observed that the number of illegal logging has fantastically decreased.
- In comparison in initial assessment there is only social challenge left connected to possibility of massive illness of employees.
- As a result of the COVID-19 pandemic, additional economic and social problems naturally emerged in Armenia and this could not but affect the forestry sector. First of all, the number of illegal logging for the use of firewood in the household increased due to the inability to pay for very expensive gas and electricity, as a result of job loss, reduced wages, loss of ability to work, increased poverty, and deterioration of the socio-economic condition of people. This crisis was further exacerbated by the war of 2020, which began as a result of Azerbaijani aggression, the occupation of the territories of sovereign Armenia, and the large number of displaced persons, who also use firewood for cooking and heating. Businesses in search of income put even more

pressure on forest resources in the form of charcoal production, conversion of forests to agriculture and for other unofficial, and often illegal, activities. Incentive programs prioritize quick financial returns and job creation, and in Armenia there is increased interest in urban mining, which also negatively affects forests, which can only exacerbate deforestation or forest degradation. However, deforestation and associated losses in biodiversity are considered to be factors that increase the risk of disease spread. The economic crisis also halted reforestation work that had been planned in advance to plant 10 million trees a year, as part of RA's commitment to bring forest cover to 20.1% by 2050 under the Climate Change Convention.

3.1.2.3 Environmental challenges

Environmental challenges were described both in a positive and a negative context. One positive outcome was increased public awareness of importance of forests, especially in urban and peri-urban environments, for physical health, mental health, and resilience in the pandemic time. Many people developed and retained the habit of spending time in outdoors during the pandemic. Unfortunately, increased pressure on the recreational function of forests, wildlife disturbance, littering in forests was reported. Forest resources will become more important due to the increase in pollution in big cities and the perceived growing need for recreation and nature-based tourism. Quotations or translated statements to the environmental challenges are presented in Box 3.

Box 3: Observed environmental challenges (as direct answers from the survey or translated versions)

Environmental challenges:

- Significantly higher number of visitors in forests, esp. during lockdown periods, had negative impacts on forest environment and nature. The examples of those negative impacts included disturbance of game and wild animals (including during spring period). This intensive use of forests for recreation purposes was apparent in the areas near big cities and towns as well as in the areas and regions attractive for tourism.
- More people started to visit protected areas, including forest, and more waste pollution on the site. Illegal logging did not seem to decrease, unfortunately; so more selective illegal logging, affecting key trees and species
- Decrease of negative impact of tourism and recreation in the forest
- Unprecedented flow of people in the forests, taking walking, hiking, biking activities.
- Pressure on recreational functions of forests. Suddenly people spend much more time in nature/forests than before pandemic. Also, air pollution is currently huge issue in **Serbia** and the role of forests is becoming more important than ever.
- In terms of forests, there must be changes, as many tourist routes are associated with forests, especially in specially protected areas. The burden of forest pollution by household waste and unmanaged tourism has increased.

In Question 2, respondents were asked how the challenges changed throughout the pandemic in general and in respect to forests and forest sector. Most respondents reported improvements in 2021 compared to the beginning of pandemic: 50% perceived positive development and 46% discussed different aspects without explicitly assigning valuation, stating that challenges are ongoing or listing both positive and negative aspects.

Most respondents observed that the major challenges arose at the beginning of pandemic in 2020 in connection to lockdowns, associated consequences, and the general economic situation, all of which affected the forest sector. In 2021, the situation stabilized, and forest operations started returning to normal. One challenge was to ensure the continuity of production to provide enough raw materials for the smooth operation of the wood industry. Forest managers, SMEs, and employees became more aware of the influence of the pandemic on their daily activities and adapted to new working conditions. Respondents from **Bosnia and Herzegovina, Slovakia, Slovenia** and **Ukraine** stated that the economic situation with the timber market and demand for forest products improved significantly. Respondents from **North Macedonia** and **Georgia** stated that challenges dealing with the pandemic continued. **Armenia** stated that a sharp decline in activity in 2020 was compensated by a slight upturn in 2021 and that the changes show seasonal differences. The seasonal differences included the risks of fires and degradation of forest ecosystems increased in summer due to higher human presence in forests and illegal logging and the increased number of infected forestry employees in winter. Respondents in **Lithuania, Serbia, and Slovenia** observed a positive impact on public awareness of the value of forests and increased importance of recreational value of forests. This contributed to a change in perception in the forest sector and among the general public that there is value in social and environmental functions of forest resources in addition to the value as a timber source with logging as the main means of income. In contrast, respondents from **Azerbaijan** noted that positive impact of the pandemic is the reduced negative anthropogenic pressure on forest ecosystems.

3.2 Strategies and recovery measures being adopted by countries in combatting the impacts of the COVID-19 pandemic on forests and the forest sector

3.2.1 Literature Review

Initial responses, including lockdowns and restricted movement, border controls, and vaccination, slowed the spread of COVID-19; however, recovery from the COVID-19 pandemic will not be a linear process. OECD stated that “governments must act on all fronts simultaneously and in synchrony” to exit and recover from the crisis (OECD 2021c). The COVID-19 Recovery Dashboard was created to measure the progress of recovery, track national efforts and monitor efforts to revive economic activity (OECD 2021d). Most of the governmental programs in the region were intended to support small and medium-sized enterprises and did not include special measures for the timber sector (FAO and UNECE 2021).

Specific examples of forest-related strategies and recovery measures were found in the literature review. Emerging practices throughout Eastern Europe were enacted at a small scale and needed to be scaled up and reassessed to ensure the policy responses to COVID-19 had positive environmental impacts (Neuweg, Herrick 6/25/2021). Environment-related employment programs in **Armenia** were established to provide temporary jobs in the agricultural sector and restore riverbanks and riparian zones (Neuweg, Herrick 6/25/2021). Forestry projects in **Belarus**, supported by the World Bank, were being revised to increase employment (OECD 2021b). **Bulgaria** and **Romania** received grants from the European Commission designed to support countries impacted by the pandemic, however primary production and processing in the forest sector was not an eligible beneficiary for this support (European Commission). In 2021, the State Forest Resources Agency of **Ukraine** announced it would create 2500 new jobs in the forestry sector to support the Government's programme to tackle unemployment due to the pandemic (State Forest Resources Agency of Ukraine 3/25/2020). In **Ukraine**, the 5-7-9% Affordable Loan Program was designed to support SMEs, but it is not popular due to the complex procedures and lack of trust from SMEs (PPV Knowledge Networks 2020).

The UNECE report “COVID-19 impacts on the forest sector in Eastern Europe, Caucasus and Central Asia” (FAO and UNECE 2021) details policies created to mitigate the effects of the pandemic on the forest industry.

- The furniture industry in the **Russian Federation** was targeted for government assistance, while the forest industry was not targeted. 34 companies meet the criteria making them eligible for federal support that includes soft loans for working capital financing and saving jobs; six-month moratorium on bankruptcy; deferred or installment payments for taxes; subsidies to cover business losses; and loans at preferential rates. Regional support measures for the timber industry include “supporting forest tenure holders with forest regeneration and the provision of materials for road rehabilitation.”
- In **Belarus**, government investments of 200 million Belarusian rubles in the forest sector was 72% above the same period in 2019. All scheduled forest management activities were completed, including forest regeneration and cultivation on more than 40,000 hectares. The forest industry harvested 12% more than planned, and the industry fulfilled its annual obligation to build 100 km of forest roads.
- Measures taken in **Ukraine** to support the forest sector include exemptions from “payment of penalties and fines for violation of tax legislation during the quarantine,” “payments (of taxes and rental) for state and communal land (this is available for some forestry enterprises, especially state-owned working on state-owned land),” and “the accrual of single social security contributions to entrepreneurs during the quarantine (a significant share of micro and small enterprises in the forest sector operate as sole proprietors).” Additionally, underemployment aid supports employees and refinancing for existing loans supports small and medium enterprises.
- In **Armenia**, the government measures to mitigate the economic and social consequences of the pandemic are estimated at approximately \$307 million, and all measures were “fully applicable to the timber industry of Armenia” as long as companies meet established criteria.

Member states were requested to prepare national market statements in preparation for the Joint Session of the ECE Committee on Forests and the Forest Industry and the FAO European Forestry Commission. The following points highlight how countries reported the impact of the COVID-19 pandemic on forests and forest products markets and some policy measures intended to mitigate negative impact on the sector (UNECE 2021b).

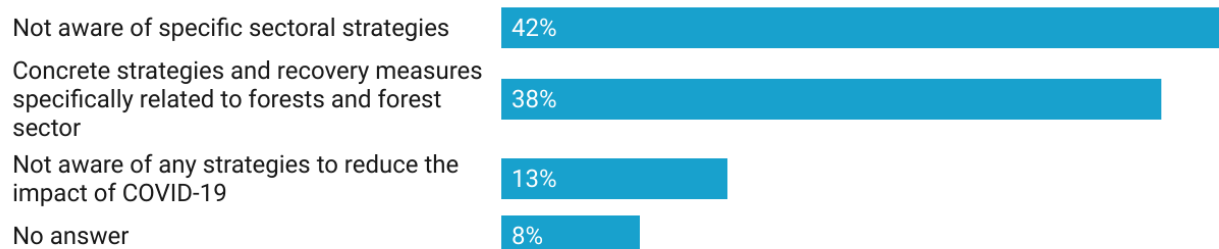
- **Montenegro** reported that companies received support for businesses and to protect working places (Montenegro Market Statement 2021).
- **Poland** reported on recession in national economy, increase in unemployment rate of forest sector and reduced export in 2020 (Ministry of Climate and Environment 2021). Specifically, reduced harvesting and reduced demand for wood products was seen in the previous period. Concretely, to lessen the negative economic and social consequences of the pandemic the government discharged a series of intervention packages such as Anti-crisis Shield, Financial Shields of the Polish Development Fund, Branch Shield, financial support of the Bank Gospodarstwa Krajowego and the Industry Development Agency). In addition, the EU funds released aid programmes, in the form of so-called Antivirus Fund Package, to support, among others, as well wood producers. Finally, it was underlined how strategic planning at the national and global levels are connected with strong uncertainty during the pandemic (Ministry of Climate and Environment 2021).
- **The Slovak Republic** reported an economic decline, decrease in employment and lower domestic timber supply. This is related to “the COVID-19 pandemic, nature conservation restrictions and

unfavorable market for softwood” (Ministry of Agriculture and Rural Development of the Slovak Republic 2021).

- **Slovenia** observed recovery in the economy, investments, and employment growth in 2021 (Slovenian Forestry Institute, Ministry of Agriculture, Forestry and Food 2021). In 2021, increased production and use of sawn hardwood and other wood products was expected. Foreign trade remained at a level similar to 2020. After the first wave of infection, no compensation of income loss to forest was foreseen. However, in late 2021 forest owners received “a reduction of the tax base from the potential market incomes for the cultivation on lands in the amount of 50% of the cadastral income.” Another favorable strategy initiated by the Ministry of Infrastructure in March 2021 were financial incentives to invest in new district heating systems with renewable energy (Slovenian Forestry Institute, Ministry of Agriculture, Forestry and Food 2021).

3.2.2 Survey Responses

In Question 3, respondents were asked about strategies and recovery measures that their country adopted to reduce the impacts of the COVID-19 pandemic specifically on forests and the forest sector (Figure 3). 38% of respondents presented concrete strategies and recovery measures specifically related to forests and forest sector. 42% were not aware of specific sectoral strategies, and they mentioned general pandemic strategies and measures. 13% were not aware of any strategies to reduce the impact of COVID-19. 8% did not answer this question.



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Figure 3: Responses distribution on strategies and recovery measures by country adopted to reduce the impacts of the COVID-19 pandemic specifically on forests and the forest sector

Governments adopted different legal acts to support recovery from the impact of COVID-19. These were generally not specific to the forest sector. They were mainly health and safety measures that covered regulation of the work of individual enterprises and organizations, restrictions on holding events involving a certain number of people, or restrictions on the movement of people. Some governments delivered strategic decisions for improvements in the forest sector but were not specifically related to moderating the impact of the pandemic.

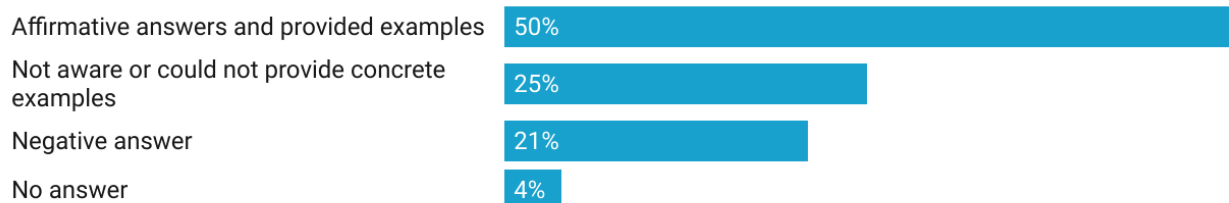
The following recovery measures, mainly in the form of financial support, applied to forest and wood processing industry:

- At the national level, **Slovakia** allocated funds for mitigating the impacts of the COVID-19 pandemic in the amount of 9.86 million euros in 2020. Measures taken by the state forest enterprise “Forests of the Slovak Republic” in 2020 to reduce the impacts of the COVID-19 pandemic included: decreasing the annual principal felling (in order to decrease volume of timber stored), decreasing

the cost of silvicultural activities, decreasing indirect costs, and reducing planned investments. These economic measures were aimed at strengthening financial stability of the company and ensure its solvency, as the state forest enterprise manages around 60 percent of forest land.

- In **Bosnia and Herzegovina**, the government introduced direct financial support in the form of employment contributions when companies were prevented from working due to restrictive measures. Later in the pandemic, producers agreed to store products until transportation abroad was regulated and to deliver wood to wood processors with deferred payment at already agreed prices, regardless of market trends. Finally, funds and credit lines were created and operationalized to help vulnerable producers overcome the crisis more easily.
- Obligatory COVID-19 testing procedures in bigger timber processing facilities took place in **Lithuania**.
- In the Baltics, governments provided subsidies for companies involved in silviculture, as there were labor shortages due to travel restrictions, especially for planting.
- **Slovenia** dedicated financial measures to forest owners within the rural development program.
- Although no strategy in **North Macedonia** for reducing the impact of the COVID-19 on forest and forest sector was prepared, the state ensured direct financial support to the Public Enterprise “National Forest” and to the private sector companies involved with processing wood products.

In Question 4, respondents were asked if and how any other national strategies and recovery measures responding to the impacts of the COVID-19 pandemic influence forests and the forest sector (Figure 4). Half of the respondents answered in affirmative way and provided examples. 25% were not aware or could not provide concrete examples. 21% gave a clearly negative answer. 4% did not answer this question.



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Figure 4: Responses on influence of other national strategies and recovery measures responding to the impacts of the COVID-19 pandemic on forests and the forest sector

Several examples mainly concerning financial support were listed:

- The Government of the **Republic of North Macedonia** implemented measures to support the private sector to reduce the impact of COVID-19 on companies, which also included companies from the wood processing industry. Generally, measures aimed to support salaries of the employees or to receive full salary even when an employee was absent from work due to COVID-19 infection.
- In tourism of **Montenegro**, small contributions (200 euros) have been paid to medical staff and other workers to be spent at small households in rural areas. This way a slight support of rural communities and maybe indirectly forest sector benefitted.

- In **Serbia**, the government released financial grants and subsidies for individuals and companies to mitigate the effects of the COVID-19 pandemic. This had a positive influence on forest sector as forest enterprises could apply for financial support.
- General financial aid in **Slovenia** for workers staying at home due to pandemic, was thought to also affect the forest sector.
- The financial tools and incentives designed to mitigate negative impacts of the pandemic on economic subjects, including SMEs (designed under the general guidance by the Ministry of Economy / the Ministry of Social Affairs of **Slovakia**), were applicable to forest companies, owners and managers.
- General restrictions, rules to work, etc. affected the work of forest sector in **Ukraine** among other countries.
- The main strategies to address the safety of citizens in **Armenia** considered the threats associated with the ongoing hostilities with Azerbaijan. A new strategic energy development program was adopted, in which great attention was given to solar energy. This can have a significant impact on logging and fuelwood requirements, which could have an adverse impact on forests.

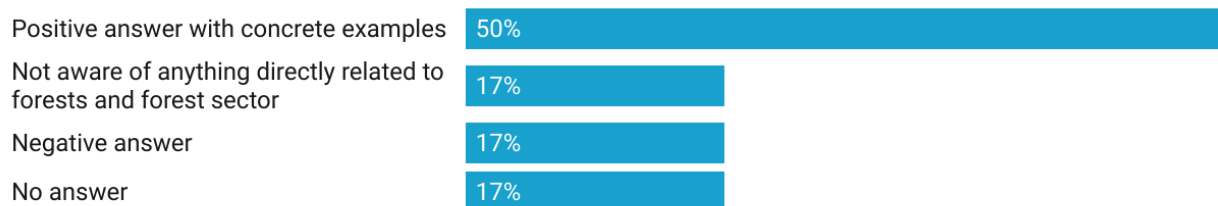
3.3 Best practices adopted by countries and other stakeholders for reducing the impact of COVID-19 on forests and forest sector

3.3.1 Literature Review

Best practices will be determined as results unfold. Innovative responses found in literature relate to public awareness campaigns, digital tools to improve communication and work efficiency, and increasing wood energy efficiency. In **Croatia**, the public forest enterprise “Hrvatske šume” website communicated sustainable forest solutions after COVID-19 and important role of forests and forest products as the world focuses on building back better in the aftermath of COVID-19 (Hrvatske Šume). **Slovenia** developed digital counseling tools and was considering developing digital, interactive silvicultural plans and strengthened virtual means of collaboration with other institutions and local stakeholders. Some experts from European Union suggested boosting perception around forests and forest management by improved communication through multiple channels and engagement of different stakeholders (BIO4ECO Interreg Europe 2021). An electronic register of timber in Ukraine enables tracking the timber origin and digitally represents the supply chain from forest to the buyer at the first processing facility is an example of how the use of digitalization improved efficiency in forest sector (State Forest Resources Agency of Ukraine). European Union countries explored the need to balance bioeconomy strategies, increasing biomass production, the EU biodiversity strategy, and the EU forest strategy 2030 (BIO4ECO Interreg Europe 2021). **Romania** aimed to increase use of sustainable energy resources, especially wood, and to be more efficient and climate-friendly by 2030 (BIO4ECO Interreg Europe 2021).

3.3.2 Survey Responses

Question 5 asked respondents to list examples of best practices (policies or actions) from government, private sector, NGOs or local communities that reduced the impact of COVID-19 on forests and forest sector in their country (Figure 5). 50% of respondents provided concrete examples, 17% was either not aware of anything directly related to forests and forest sector, 17% of respondents answered in negative way, and 17% did not provide any answer.



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Figure 5: Categories of answers to best practices (policies or actions) from government, private sector, NGOs or local communities that reduced the impact of COVID-19 on forests and forest sector in different countries.

Subsidies and financial support were often cited by respondents as best practices for forests and forest sector. In **Montenegro, Serbia, and Slovakia** the subsidies and financial releases were accepted by forest sector businesses. In **Lithuania**, several private forest management companies eligible for financial support declined it stating that it helped the country more by not taking taxpayer money for their private businesses. **Armenia** did not report on best practices specifically related to forest sector, reporting instead practices from agriculture and other sectors such as to promote business, through co-financing, provision of loans at low interest rates and extension of loan repayment periods. Donor-funded activities in **Georgia** to support sustainable forest management and to overcome the crisis caused by COVID-19 included sustainable timber-harvesting for provisioning of fuelwood for public organizations such as schools and kindergartens, rehabilitation of forest roads, fire prevention measures, as well as capacity building for the employees of the National Forestry Agency.

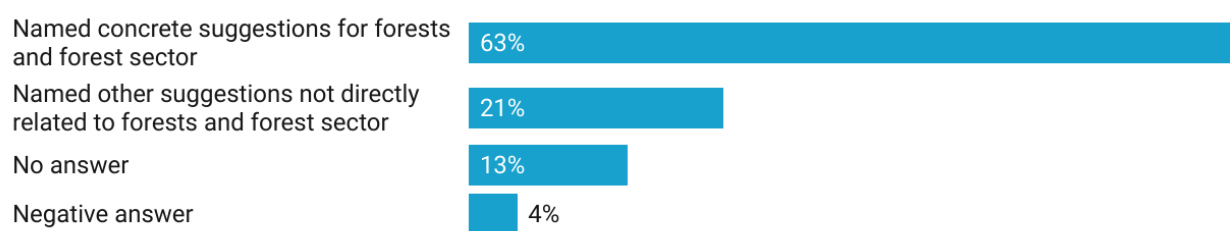
Addressing issues related to cross-border trade and export markets lessened the impact of the pandemic. Movement of capital and labor across borders was restricted during the travel bans, and capital and labor flowed more easily after the travel bans were lifted. Consequently, the renewed flow supported wood trade companies and stabilized international wood markets in the Baltics. **Bosnia and Herzegovina** observed increases in price and export of wood products at a rate of 30-40% in 2021, as customers in Western Europe (primary Italy and Germany) increased their demand for furniture to improve their living and working space. Moreover, strong export orientation of the wood processing industry and exploring new international market opportunities were recorded.

Appropriate technology was cited to overcome barriers related to communication and cooperation. **Ukraine** and **Slovakia** have observed improved and simplified communication with online meetings. Nevertheless, virtual events and meetings could replace physical meetings successfully only to a certain extent. Cooperation initiatives and forest restoration efforts in **Moldova** and **Ukraine** were anticipated to have positive effect on forests and forest sector.

Best practices to reduce the impact of COVID-19 in a general context were similar to those mentioned in the forestry context including the need for opportunity for full vaccination (**Russia, Ukraine**), enhanced use of virtual communication (**Ukraine, Slovakia**) and direct financial support (**Serbia, Slovakia**). In several countries, like **Bosnia and Herzegovina, Croatia, Montenegro** and **Slovenia**, tourism vouchers were issues to enhance national tourism and primarily nature-based tourism during pandemics. In the same countries, respondents observed a shift from socializing in indoor environment and coffee shops towards open spaces and natural places. This all had an indirect impact on forests and forest sector.

3.3.2.1 Suggested practices, strategies, and changes to reduce the impact of COVID-19 on forests and forest sector

Question 6 asked respondents about actions or policies they would like to see in their country to effectively reduce the impact of COVID-19 on forests and the forest sector. Furthermore, they were requested to elaborate if anything was specifically related to international cooperation in the post-pandemic recovery (Figure 6). More than half of participants (63%) had concrete suggestions for forests and forest sector, 21% did not name suggestions directly related to forests and forest sector but offered other suggestions, 13% did not answer this question and 4% responded in negative manner.



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Figure 6: Responses on actions or policies anticipated in the countries to effectively reduce the impact of COVID-19 on forests and the forest sector

In general context, some respondents from **Ukraine** wanted basic sanitary measure to be respected and to see more activities on raising awareness, building trust between citizens, health system and authorities. Respondents in **Ukraine** also wished for withdrawing restrictions related to conducting business activities. **Serbia** anticipated implementation of the best practices as adopted in other European countries and recovery of mobility again.

The following comments from respondents are concrete suggestions related to forests and forest sector:

- **Russia** - advises full vaccination in the forest sector.
- **Georgia** - the forest sector should be able to adapt and maintain effective performance.
- **Slovenia** - open the forestry sector to other business opportunities, such as regulated eco-tourism, which might help forest owners to try innovative forest-related tourism/recreation services.
- **Slovakia** - all future actions, policies and instruments (incl. funds) to reduce the impact of the pandemic on forests and the forest sector, also in the post-pandemic era, will have to be linked with other top policy priorities regarding forests, especially with climate change mitigation and adaptation. Enhancing resilience and adaptive capacity of forests to climate change will require more investments, from public as well as from private sources. This will enhance the capacity of forests to cope with various negative impacts of climate change and the ability of forests to protect people against current and eliminating future pandemics.
- **Moldova** - increase in forest cover in the country.
- **Ukraine** - forest industry requires a reform.
- **North Macedonia** - create a climate for institutional reform of the forest sector and to start meeting the criteria for sustainable forest management
- **Armenia** - closer attention to the forestry sector by the government and international organizations. Advised is to have a special state program on forest regeneration, state assistance to organizations involved in forest regeneration, such as interest-free credits for organizations implementing forest regeneration, tax benefits for business organizations providing grants for forest regeneration, attraction of residents of forest communities to forest regeneration works, improvement of working conditions and guarantees for forestry sector employees, improvement of forest management and protection. International cooperation on implementation of joint international programs in the forest sector, provision of funding for reforestation, implementation of reforestation programs at the expense of repayment of the country's foreign debt or reforestation at the expense of reduction of quotas of countries with high emissions, expert assistance, assistance to increase the capacity of forest ecosystem services, etc. are essential in solving these problems.
- **Georgia** – to ensure the stability of already planned activities and policies in the country is the main priority. Financing forest landscape restoration activities from international donor organisations are preferred.

Some countries (**Bosnia and Herzegovina, Montenegro, Ukraine**) reported on reduced international cooperation, partially due to pandemic and partially due to lack of skills and capacities. Most of initiative were related to climate, which is also important for the forest sector. The switch to virtual means in the pandemic time was beneficial for local matters, but virtual communication was not necessarily successful in international cooperation. **Georgia** suggested that international cooperation should strengthen its

support to the forest sector, both through financial and policy means. Moreover, **Bosnia and Herzegovina** advised that forestry and the wood industry would benefit from international cooperation related to market experiences, information exchange about new market opportunities, digitalization in general, and new forms of business. In contrast, **Lithuania** was unsure if the international cooperation might be successfully implemented due to too many uncertainties and different procedures applied inlands and abroad.

3.4 Results of the validation workshop

To validate the results of the draft assessment findings, a virtual consultation with experts and stakeholders in the form of validation workshop was conducted on 16 December 2021. In total fourteen participants from nine different countries took part in the validation workshop. Based on the results of these consultations the draft assessment was revised. Main conclusions are that the findings correspond to the experience in the countries and specific contributions were captured below.

A participant from **Russia** confirmed that the observations from his country were aligned with the assessment findings. In 2020, restriction measures were stricter, and people were more scared compared to 2021. At the time of the validation workshop the situation was “closer to normal”. Comparing findings from literature and the survey it was suggested to focus on the survey findings as it captures better the most recent developments in the countries. The question was raised if the results from the first assessment and the second assessment were compared, and such a comparison was advised.

A participant from **Lithuania** observed increased use of forests for recreation, which brought challenges to manage increased people flows together with implementation of protection measures. Managing business in wood industry especially in shifts was challenging in pandemic. No specified strategies for forest sector were in place but general strategies applied to forest sector as well. Although not in favour of digitalization as an expression, implementation of mobile applications and improving information flow and efficiency in conducting business in forest planning due to better coordination, increased efficiency and reduced costs. Now people can work from elsewhere and this trend is assumed to continue in the future, but precondition is a high-speed internet. This all led to improvement of information awareness, digital management plans, and coordination of deliveries in processing industries. Temporary problems related to international business were named as well as deficiencies in logistic. Further listed were orientation to export and increased prices, increased demand on improving homes and furniture. All in all, it was a very good year for wood processing industry with main challenge to secure security in the wood processing factories. At the beginning confusion was observed, but people learned how to overcome the limitations.

Another participant from Poland active in **Baltics**, agreed with previous comments and observed that people tend to renovate their homes instead to spend time on holidays. He also noted problems with supply chains, increased demand for wood based packaging and increased costs of transportation, reluctant investments in forest sector due to uncertainty. Some countries supported recreation in times of pandemic and other rather banned it at the beginning (e.g., Poland).

A participant from **Ukraine** noted shock at the beginning and then adaptation. Illegal logging dropped during COVID pandemic. Some resistance of forest enterprises to cooperate with civil society under excuse of COVID-19 fear was observed in the country. Positive development was the application of innovative approaches (e.g., digitalization in forestry).

A participant from **Moldova** noted that illegal activities related to forests dropped and interest in forests and legal sources of wood increased. Huge interest in restoration activities to address challenges such as

water supply, land degradation and CO₂ sequestration, thus the government has launched project to establish 100'000 ha new forests in next 5 years.

A representative of **Slovakia** noted that COVID-19 is not perceived as the biggest problem for forest owners and forest managers lately in his country, but negative impact of climate change on forests is the issue that forest professionals aim to address.

In the discussion exercise different challenges were noted, but survival and increase of COVID-19 spread dominated. Most important strategy observed is vaccination and identified best practices are international support and digitalization.

4 Synthesis

This section captures previously listed main findings from literature, survey and validation workshop to deduct clear conclusions and recommendations of the assessment.

Challenges

The pandemic continues to negatively impact the national economies in Eastern Europe with significant implications for crisis management and policy responses. Policy measures taken to slow the spread of the COVID-19 virus have led to positive and negative effects for forests and forest sector. Positive environmental effects include improvements in air quality and reduced CO₂ emissions; and negative effects include an increase in single-use plastic waste and reduced environmental compliance monitoring. In some cases, economic development took precedent despite negative environmental impacts. Overall increase in use of forests for recreational purposes was observed, both in the countries that posed stricter restriction measures at the beginning of the pandemics and in the countries that were supporting this trend for health benefits. Negative effects of the pandemic especially affected the wood processing industry due to a decline in foreign trade and disrupted cross-border trading in countries with clear export orientation, although forest sector is declared as more resilient than other sectors. Some countries note intensified demand for renewable energy and increased use of wood energy and other wood products. At the same time, public pressure to conserve forest resources and ensure biodiversity protection became apparent during pandemic as more people used forests for recreation. Many countries noted that the pressure on forest management increased.

Some respondents pointed out that forest sector, especially production and forest management, was not strongly affected by the pandemic, as demand for basic products, such as for firewood, remained. Several countries even noted that this year brought business success, with main challenge to ensure distancing and health measures in the wood processing factories. At the beginning of pandemic in 2020 the impact was more adverse; while in 2021, respondents perceived certain stabilization and adaptation to a “new normal.” First, there were challenges from economic stagnation and increased expenditures. Later, employee absence due to spreading infection and performance losses compounded the challenges. Respondents from most countries noted a great importance of forests as a place for recreation and retreat, especially in times of general restrictions and prohibitions on socializing and gathering. However, respondents from some countries perceived intensified recreational use of forests as disturbance and have seen restriction measures as certain recovery enablers for natural ecosystems.

Strategies

On the OECD level there are incentives to measure the progress of recovery, track national efforts and monitor efforts to revive economic activity. Emerging practices throughout the Eastern European region are being done at a small scale and are advised to be scaled up and reassessed to ensure the policy responses to COVID-19 have positive environmental impacts. Common strategies in the region were related to provision of grants for economic recovery and environment-related employment programs.

In the survey most countries reported on general strategies and recovery measures adopted to reduce the impacts of the COVID-19 pandemic. Specifically related to forests and the forest sector recovery mainly applied were different means of financial support in the form of subsidies, deferred payments and costs reductions.

In the validation workshop the immunization against COVID-19 was the most important strategy that could be identified as beneficial in dealing with pandemic and having direct impact on forest sector as well.

Best practices

Literature findings report on importance of forests and forest products as the world focuses on building back better in the aftermath of COVID-19 and of efforts on enhanced communication on sustainable forest solutions after COVID-19. Countries consider digital solution in forest sector, such as digital counseling tools, and developing digital, interactive silvicultural plans. Some experts from European Union suggest boosting perception around forests and forest management by improved communication through multiple channels and engagement of different stakeholders. Overall countries consider increase in use of sustainable energy resources (especially wood) and to be more efficient and climate-friendly in the future.

The identified best practices directly related to forests and forest sector were quite often in the form subsidies or financial releases. Furthermore, improved and simplified communication through virtual means of communication had positive impact on forest sector and other spheres of life. However, a good balance of meeting in presence and on-line is required to efficiently conduct business in the forest sector.

The validation workshop strengthens that international cooperation for exchange of knowledge and experiences on pandemics and improving efficiency by use of virtual tools and digitalizing forest sector were the best practices observed.

4.1 Recommendations

For many people, the perception on the value of forests changed after the challenges induced by the pandemic. As a result, it was observed that more attention should be paid to strengthening the socio-cultural services of forest ecosystems. Integration of sustainable forest management and the value of ecosystem services into recovery plans was desired, and also better communication and outreach to wider population on benefits of sustainable forest management for adaptive and resilient forests and to reduce negative image around performing forest management. To achieve this, better collaboration among stakeholders from forest sector and wider society, and efficient international cooperation is required. This would align opposing interests and support better coping with uncertainties and challenges posed by pandemic.

There is a clear wish for the forest sector to have more effective performance, to be responsive to challenging situations, and open to innovative business opportunities. Ecotourism, for example, might encourage forest owners to create innovative forest-related recreation services. In general, investing in forests and forest sector should be included in national recovery strategies and development of national

forest financing strategies is advised. Linking all future actions, policies, instruments and incentives to reduce the impact of the pandemic on forests and the forest sector with other policy priorities regarding forests, especially climate change mitigation and adaptation.

Enhancing forest resiliency and adaptive capacity to climate change and other risks will require more public and private investments for forests to cope with negative impacts of climate change, to protect people against current disease, and to reduce future pandemics. Some countries especially appreciated initiatives to halt deforestation and unsustainable forest practices and consider that activities that increase forest cover and restoration are beneficial for forests and forest sector. Especially appreciated would be supportive economic mechanisms, grants and enabling conditions for implementation of restoration activities. Others wish for structural reforms in forest sector to strengthen resiliency in times of crises such as the COVID-19 pandemic and climate change. Both groups would appreciate international support and guidance on those matters.

Countries reported on reduced level of international cooperation in the pandemic time. This was partially due to pandemic and partially due to lack of skills and capacities to elaborate successful proposals. Most recent initiatives of the countries are related to climate, which are also important for the forest sector. The switch to virtual means in the pandemic time is beneficial but does not show the same success in international cooperation. The need to strengthen data collection, analysis and exchange on the experiences during pandemics and sharing best practices still persists. Thus, international cooperation should strengthen its support to the forest sector, both through financial and policy means. Concretely, forest sector with wood industry could benefit from improved information exchange about successful business practices in the pandemics, new market opportunities, and digitalization. However, successful implementation is connected to many uncertainties and different procedures applied nationally and abroad. Some voices invite Forum to initiate comparison of the findings from the first assessment and the second assessment and to deduct learning lessons on experiences and recovery measures to support countries in their recovery.

4.2 Opportunities for forests in COVID-19 recovery strategies

Economies and human well-being depend on forest ecosystems (UN DESA 2020); and forests experienced increased use and misuse since the start of the COVID-19 pandemic (UNFF 2021). Healthy forests provide many goods and services for society, and forests are important for addressing the challenges that have come from the pandemic including economic recession and widening inequality (UN DESA 2020). Incorporating the forests into COVID-19 pandemic recovery policies can benefit biodiversity conservation, local livelihoods (FAO 2020d), and development of a bioeconomy (WBCSD 2021). Responses to COVID-19 can leverage forests and the forest sector as drivers for economic and behavioral change and thereby increase resiliency of environmental and social systems.

Sustainably managed forests generate employment, enhance livelihoods, and influence climate change; therefore, integrating forests in national stimulus packages and considering a “green recovery” for the post-pandemic period is important (FAO 2020c). The threats posed to humans by the dual challenges of COVID-19 and climate change can be mitigated by listening to climate science and protecting natural ecosystems. It is important to promote the rights of forests communities to reduce their vulnerability to the economic impacts of the pandemic (CPF).

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Annex 1: Second Assessment of the Impact of COVID-19 on Forests and Forest Sector (Eastern Europe)

Survey questionnaire

Country:

Name of respondent:

Representing institution/organisation:

In this Second Assessment we kindly ask you to provide your short qualitative opinion on how your country tackled reducing the impact of COVID-19 on forests and forest sector. This is a follow-up to the Initial Assessment, which evaluated the impact of Covid-19 on Sustainable Forest Management in 2020 ([Covid-19-SFM-impact-Eastern-Europe-final.pdf \(un.org\)](#)). This survey consists of seven short questions. Please note that no quantitative data nor official country statement is expected, but rather your observations and opinion as an expert.

Please send us (at jelena.markovic@bfh.ch) any relevant national documents related to reducing the impact of COVID-19 on forests and the forest sector (for example, published studies and reports, news items, interviews, recorded webinars, policy briefs or other information dealing with this topic).

Challenges during response to COVID-19 faced by country

- 1 From your perspective, what challenges did your country face when addressing the impact of COVID-19 pandemic on forests and forest sector? This could include economic and social challenges.
- 2 How did the challenges change throughout the pandemic in general and in respect to forests and forest sector?

Strategies (policies or national framework) and recovery measures (actions taken) for reducing the impact of COVID-19

- 3 What strategies and recovery measures has your country adopted to reduce the impacts of the COVID-19 pandemic on forests and the forest sector?
- 4 Do other national strategies and recovery measures responding to the impacts of the COVID-19 pandemic influence forests and the forest sector? If so, how?

Best practices (policies and actions that had a positive effect in reducing the impact of COVID-19)

- 5 Please list examples of best practices (policies or actions) from government, private sector, NGOs or local communities that reduced the impact of COVID-19 on forests and forest sector in your country.
- 6 What actions or policies would you like to see in your country to effectively reduce the impact of COVID-19 on forests and the forest sector? Anything specifically related to international cooperation in the post-pandemic recovery?
- 7 Do you have any links related to previous questions with information available in national languages you would like to share?

Do you have any other comments or points you would like to raise?